

WHAT IS CLAIMED IS:

1. A dewatering system for dewatering a material, the system comprising:

a pressure roller dewatering apparatus comprising:

two dewatering rollers parallel to each other, the distance between which is freely adjustable, and

at least one water-absorbent draw-in member provided on the external periphery of the dewatering roller;

a water content-controlling unit for dewatering the material until the water content of the material is reduced to a liquid limit or lower and for supplying the resulting water-content-controlled dewatered material between the two dewatering rollers, the water content-controlling unit being disposed upstream of the pressure roller dewatering apparatus; and

a roller recycling unit for removing adhering matter and water from the draw-in member.

2. The system according to claim 1, the roller recycling unit comprising:

a cake removing unit for removing the cake adhering onto the surface of the draw-in member;

a cleaning unit for cleaning the draw-in unit; and

a water removing unit for removing the water absorbed in the draw-in member.

3. The system according to claim 2, wherein the cake removing unit comprises a transfer roller that makes rolling contact with the draw-in member of the dewatering roller.

4. The system according to claim 3, wherein a scraper for scraping off the cake transferred from the draw-in member of the dewatering roller onto the surface of the transfer roller is provided to the transfer roller.

5. The system according to claim 2, wherein the cleaning unit comprises a washing nozzle for spraying water toward the surface of the draw-in member after the cake is removed from the surface of the draw-in member.

6. The system according to claim 2, wherein the water removing unit of the draw-in member comprises a squeezer roller for rolling the draw-in member of the dewatering roller.

7. The system according to claim 1, further comprising a drain unit for collecting water produced by the roller recycling unit and draining the collected water to the outside of the dewatering system.